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INACTIVE FLYASH PILE/SOUTH FIELD DISPOSAL AREA REMOVAL ACTION WORK PLAN FEMP REVISION 2 DECEMBER 1991

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ENCLOSURE

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INACTIVE FLYASH PILE/SOUTH FIELD DISPOSAL AREA

REMOVAL ACTION

WORK PLAN

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

REVISION 2

December 1991

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For:

THE UNITED STATES DEPARTMENT OF ENERGY
Oak Ridge Operations Office

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I. INTRODUCTION

The Inactive Flyash Pile/South Field Area (IFAP/SF) is located in the southwest corner of the FEMP site and is identified as part of Operable Unit 2, pursuant to the 1990 Consent Agreement (see Figure 1). A Removal Site Evaluation (RSE) has been generated by the Department of Energy (DOE), consistent with 40 CFR 300.410, and it was determined by the DOE, being the lead agency for the Fernald Environmental Management Project (FEMP) CERCLA actions, that a time-critical removal action is necessary. The removal action involves the roping and posting of warning signs around the perimeter of the IFAP/SF to limit access. The removal action is being conducted pursuant to the Consent Agreement between the DOE and the United States Environmental Protection Agency (U. S. EPA) under CERCLA section 120 and 106(a).

The Consent Agreement requires the U. S. EPA review and comment on work plans submitted by the DOE for all removal actions. This work plan satisfies that requirement and those requirements of 29 CFR 1910.120. All activities performed under this work plan will be pursuant to the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and consistent with the OSWER Directive 9360.0-03B, SUPERFUND REMOVAL PROCEDURES, Rev. 3.

II. DESCRIPTION/BACKGROUND

1.0 *Summary of the Potential Threat*

A review of the Roy F. Weston, Inc., 1987, "Characterization Investigation Study (CIS), Volume 3: Radiological Survey of Surface Soils" showed levels of radionuclide contamination, which may pose a threat to an individual or individuals casually entering the IFAP/SF area.

2.0 *Related Actions*

Additional sampling for the RI/FS will be conducted in the IFAP/SF consisting of eight borings, four hand augers at two-foot depths, and four machine augers at approximately twenty-foot depths. This additional sampling will be completed prior to the implementation of the IFAP/SF Removal Action and will be conducted under the "Addendum to the OU 2 Sampling and Analysis Plan, April 1991".

A proposal exists to install a pipeline along the access road east of the IFAP/SF for the South Plume Alternate Water Supply Removal Action. This removal action will not interfere with any actions or activities planned for the IFAP/SF and its final remediation.

Another activity that may occur in this area is the removal of the lead from the firing range, which is located northeast of the running track and on the western side of the South Field. This removal action will not have an impact on the IFAP/SF removal action.

3.0 *Roles of the Participants*

The DOE is the lead agency for all removal actions at the FEMP, and will coordinate and execute this removal action.

The U. S. EPA will review and approve this work plan and provide technical guidance.

The Ohio EPA will participate in the development and review of this work plan and provide technical guidance.

Advanced Sciences Incorporated (ASI), as a contractor to DOE, is conducting the RI/FS program, which includes additional sampling. The additional sampling includes locations in the IFAP/SF. ASI is also providing analytical support through International Technology (IT) Corporation.

Westinghouse Environmental Management Company of Ohio (WEMCO), as the FEMP Management and Operating contractor, is responsible for the implementation of this removal action in a manner consistent with DOE and regulatory guidance.

4.0 *Removal Action*

The IFAP/SF Removal Action will consist of the fencing/roping and posting of signs around areas of known and suspected contamination (see Figure 2). Known areas of contamination have been identified by the CIS.

5.0 *Integration with the Remedial Action*

This removal action will be completed prior to initiation of the final remedial action for Operable Unit 2. It will mitigate potential exposure of the surrounding population to contaminants at the IFAP/SF.

III. SUPPORT ACTIVITIES

1.0 *Planning Activities*

Activities to be undertaken prior to the actual site work are planning, training, design, and management of the removal actions. Included in this activity will be the preparation of detailed task listings and delineation of responsibilities to support the schedule given in Attachment I. These activities are required to render the area reasonably free of hazards to personnel and/or the environment until the RI/FS process has been completed.

2.0 *Design of the Removal Action*

Definitive design documents will be prepared for the removal action construction work.

3.0 *Training of Personnel*

All personnel working in the implementation of the removal action will be trained in accordance with the Occupational Safety and Health Administration (OSHA) standards found in 29 CFR 1910.120.

IV. FIELD ACTIONS

1.0 *Implementation of the Removal Action*

Implementation of this removal action will be performed by maintenance or construction personnel, and will include installation and construction-type activities, in addition to the maintenance activities.

Rope will be placed around the perimeter of the IFAP/SF. The type of roping material will be determined during the design phase. The type of material will be determined by both cost, material integrity, and long-term maintenance needs. The rope will be attached to support posts made of steel. The approximate ground-to-rope height will be three feet.

Warning signs approximately 75 feet apart will be posted around the perimeter of the roped-off contaminated area.

Any banner, rope, or other similar materials shall be installed so not to cause or create a safety hazard. Flagging or some other means shall be employed to reduce this hazard.

2.0 *Maintenance*

The roping and warning signs will be maintained by the facility owner. This activity will begin at the completion of this removal action and will continue until the remedial action for the IFAP/SF begins.

V. SAMPLING AND ANALYSIS PLAN

There will not be any samples taken for laboratory analysis, since there will not be any material removed. However, if it is determined during the implementation of the removal action that sampling is needed, a sampling and analysis plan will be developed.

VI. HEALTH AND SAFETY PLAN

The work to be performed will be in accordance with the Health and Safety Plan prepared for this removal action. The plan identifies, evaluates, and controls all safety and health hazards. The plan is consistent with 29 CFR 1910.120 and the FEMP Site Health and Safety Plan. Safety documentation will be prepared according to FEMP-2116 Topical Manual, "Implementing FEMP Policies and Procedures for System Safety Analysis and Review System" and DOE/OR-901, "Guidance for Preparation of Safety Analysis Reports".

VII. QUALITY ASSURANCE

The Inactive Flyash Pile/South Field Removal Action will be conducted according to requirements of the overall quality assurance program at the FEMP, which is described in the site-wide and RI/FS Quality Assurance Project Plan (QAPP). Specific quality assurance requirements will be incorporated into personnel training. The FEMP will conduct a periodic surveillance to verify compliance with the QAPP.

VIII. PERMITS AND REGULATORY CONSTRAINTS

No permits are required for this removal action.

RESPONSE TO U.S AND OHIO EPA COMMENTS

RESPONSE TO U. S. EPA COMMENTS

COMMENT

The United States Environmental Protection Agency (U. S. EPA) has completed its review of the revised Inactive Flyash Pile/South Field (IFAP/SF) Removal Action Work Plan. The U. S. EPA hereby approves the Work Plan. However, given the high degree of soil contamination indicated by samples 24-081 and 24-241, the United States Department of Energy must take further action to evaluate and address the contaminated soils from these areas. The U. S. EPA recommends this be accomplished by developing a second part of the Removal Action to address this issue.

RESPONSE

Locations 24-081 and 24-241 will be identified by survey using the state coordinates given in the Characterization Investigation Study (CIS). Once the locations are established, a radiological surface field instrumentation survey will be conducted of the two locations using a FIDLER. Additionally, a 20 by 20-foot area around the locations will be field surveyed using a FIDLER. It will be determined from this field survey any additional evaluation that will be needed for characterization.

RESPONSE TO OHIO EPA COMMENTS

COMMENT 1.

OHIO EPA COMMENT #2: Objectives were not provided in paragraph one of the Introduction. The only reference to an objective is in Section IV, 2nd Paragraph, " ... to limit human access, which is the primary objective of this Removal Action." The objective(s) of this Removal Action should be clearly stated within the Introduction. The Work Plan should then go on to discuss how the objective(s) will be attained.

RESPONSE

The objectives have been included in Paragraph 1 of the Introduction, and how these objectives will be attained are discussed in the Work Plan.

COMMENT 1.

The Revised Work Plan includes the CIS analytical data that characterizes two surface sampling locations (24-081 and 24-241) with high levels of uranium contamination (i.e., U-234 ranging from 2850 to 11400 pci/g). These levels are on the same order of magnitude as soils near the sewage treatment plant incinerator which are designated as Removal Action #14. DOE should evaluate conducting a Part 2 of this Removal Action to include excavation and storage of soils at these two highly-contaminated locations. Our concern is that although the proposed Removal Action may limit Human Access, these surface soils will continue to be subject to leaching into the aquifer, ecological exposures and erosion by wind and water.

RESPONSE

Locations 24-081 and 24-241 will be identified by survey using the state coordinates given in the CIS. Once the locations are established, a radiological surface field instrumentation survey will be conducted of the two locations using a FIDLER. Additionally, a 20 by 20-foot area around the locations will be field surveyed using a FIDLER. It will be determined from this field survey any additional evaluation that will be needed for characterization.

COMMENT 2.

If a future problem develops with intruders gaining access to the FEMP Site and the Inactive Flyash Disposal Area, DOE should consider upgrading the perimeter fence at the property line.

RESPONSE

Historically, DOE has not had a problem with intruders gaining access to the FEMP Site. However, if a problem does arise, DOE will consider upgrading the perimeter fence or other access control measures.

COMMENT 3.

Are there DOE or NRC regulations, requirements, or orders that apply to the security of radioactively-contaminated areas? If such requirements exist, they should be discussed within the Work Plan and achieved by this Removal Action.

RESPONSE

DOE Order 5480.11 establishes security criteria for radioactively-contaminated areas. This order calls for security around areas if at anytime during normal operations an individual can receive a dose equivalent greater than 5 mrem in one hour at 30 centimeters from the radiation source or any surface through which radiation penetrates. These levels are much higher than were evident in the Weston C. I. S. and more recent radiological survey data for the IFAP/SF.

COMMENT 4.

DOE should include a map of the Bore Hole and Surface Sampling locations.

RESPONSE

Maps taken from the Weston CIS of the sample locations are included as Attachment A.

REMOVAL SITE EVALUATION

COMMENT 1.

SECTION 2.3, PAGE 11, FIRST PARAGRAPH: The statement "Most samples showed thorium isotopes, uranium isotopes, and radium-226 at or slightly elevated from background levels" provides new insight into what DOE considers "at or slightly elevated from background levels." Comparing data from Table A to the average "background" levels stated in Table B.1 reveals that Ra-226 concentrations in 13 or 15 samples in the IFAP/SF area are at least one order of magnitude greater than the "background" concentration. U-238 concentration in 10 or 15 samples were at least an order of magnitude greater than the average "background" concentration. In addition, a majority of the Th-230 and U-234 concentrations in the IFAP/SF are significantly above what might be expected at background levels. Suggesting that the concentrations detected in the IFAP/SF area are "slightly elevated" is deceptive and misleading. It should be noted that future documents suggesting concentrations "at or slightly elevated from background levels" will be reviewed with wariness. DOE should describe the decision-making process that led to this conclusion.

RESPONSE

Regrettably, there has been a misunderstanding of the intent of the text referred to in the RSE. The following is intended to clarify the language in the RSE.

PAGE 9, SECTION 2.3, SECOND SENTENCE: "Appendix A summarizes the radiochemistry results for surface soil concentrations...". There were 260 sample results from the CIS that were reviewed. Appendix A lists those with the elevated concentrations. The 260 sample results reviewed and not listed in Appendix A were at or slightly elevated from background. The sentence should more properly read "Appendix A lists the radiochemistry results for surface soil concentrations of concern."

PAGE 11, SECTION 2.3, FIRST PARAGRAPH: "Most samples showed thorium isotopes . . . at or slightly elevated from background." This statement was not intended to diminish the importance of the existing threat posed by the results listed in Appendix A. The next two sentences, "The most notable values.... These values raised the statistical averages significantly...", were intended to emphasize the results listed in Appendix A. "Most samples showed thorium isotopes..." should read, "Most samples reviewed from the CIS for the IFAP/SF and not listed in Appendix A showed...".

It was not DOE's intent to be "deceptive and misleading". DOE considers all levels of contamination seriously, even those "slightly elevated from background." In the future, DOE will try to ensure the use of language that will better clarify topics to avoid future misunderstandings.

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COMMENT 2.

TABLE B.2: The table should provide a footnote defining "NV".

RESPONSE

DOE agrees. "NV" means "no value".

ATTACHMENT A

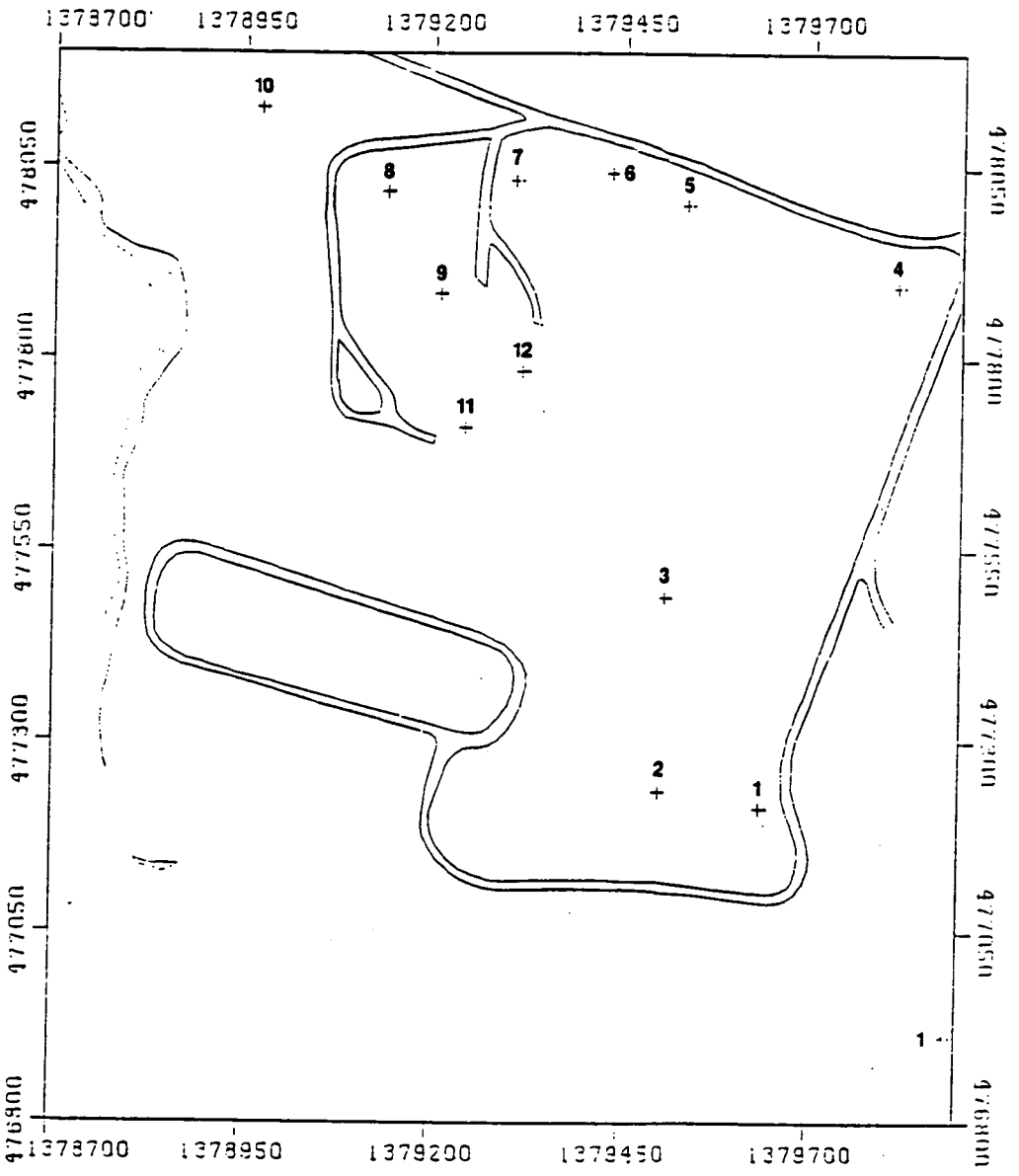

FIGURE 2-2D BOREHOLE SAMPLE LOCATIONS IN THE FLYASH AREA

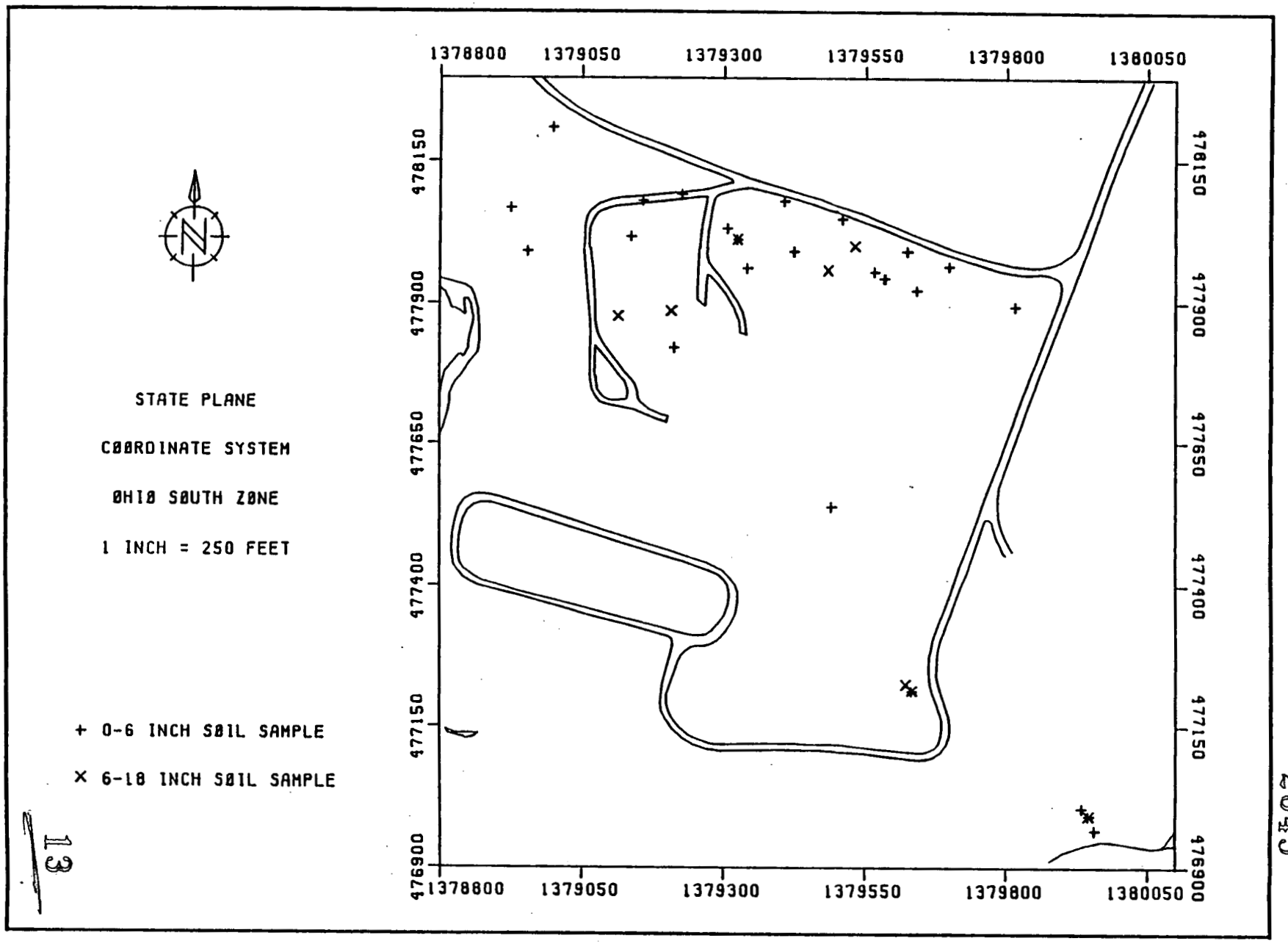

FIGURE 3-36 RADIOCHEMICAL SAMPLE LOCATIONS - FLY ASH AREAS